

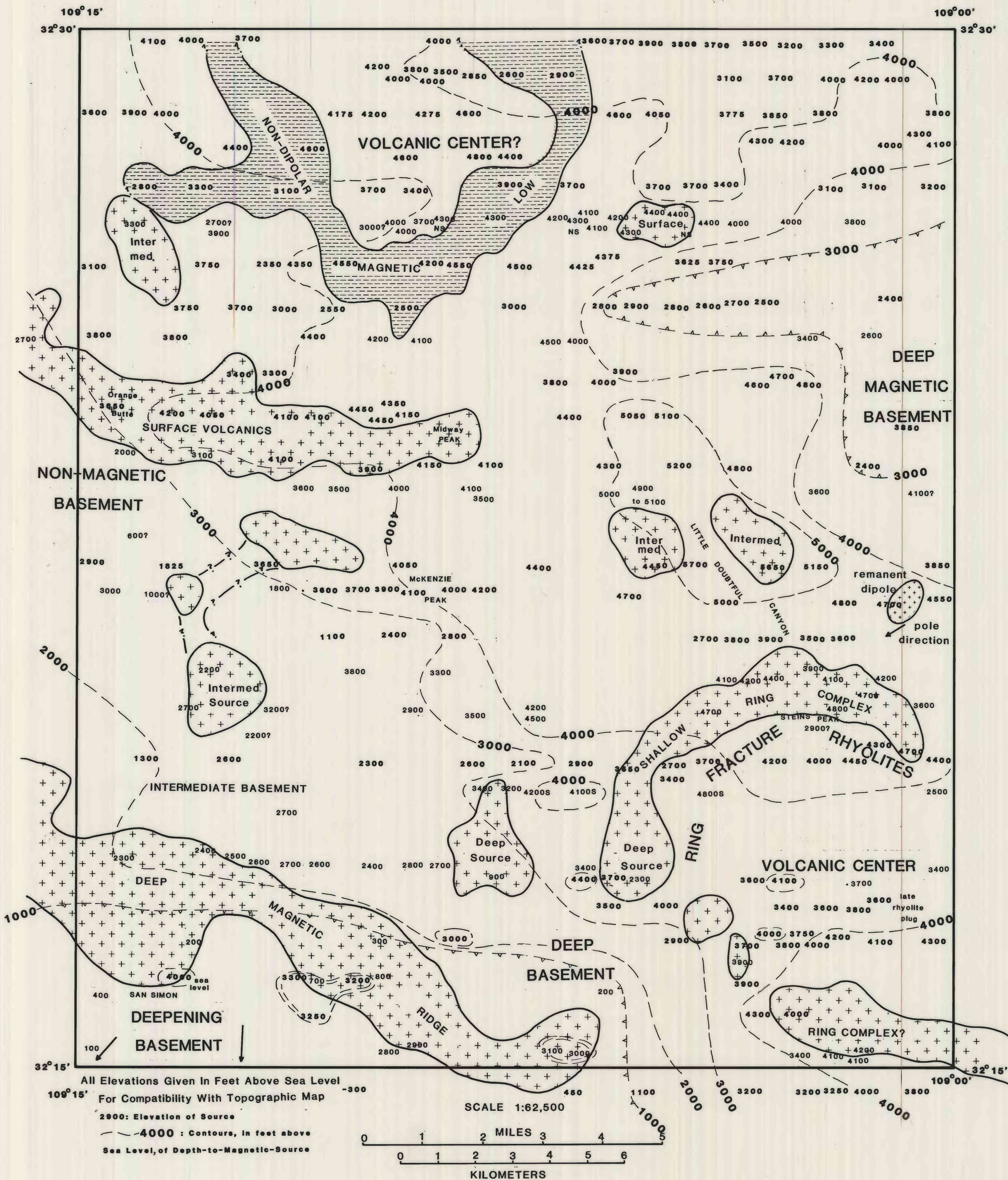
SAN SIMON QUADRANGLE

ARIZONA-NEW MEXICO

MAGNETIC SOURCE ANALYSIS MAP

San Simon 15' Quadrangle

PLATE 2 of 2



DESCRIPTION

This is a source analysis map for magnetic anomalies in the San Simon 15' Quadrangle, Arizona and New Mexico. It was made using both the original contoured aeromagnetic map (especially for the deeper sources) and the analog flight records provided by the Contractor, Airmag Surveys, Inc. The depth-to-top-of-magnetic-source information was obtained using the horizontal gradient method of Vaquier and others (1951), using a multiplicative factor of 1. Flight lines are indicated on Plate 1; depths represented on this map are in feet above sea level to be compatible with the U. S. Geological Survey topographic map (San Simon 15' Quadrangle, 1950).

Inferred volcanic centers and ring structures derive from conversations with Don Richter, USGS (Personal Communication, 1980). Placement of this information and other aspects of the representation remain the responsibility of the first author.

Over most of the map area, magnetic basement is masked by the overlying volcanic cover. The data, however, have wavelength-spreads that indicate that volcanic rocks probably extend continuously from a deeper basement up to the depth-to-top-of-magnetic-source (usually surface volcanic rocks) shown on this map. The exception to this is in the southwest corner of the map, where there is a clear separation between volcanic rocks at intermediate to shallow depths and a much deeper basement. The intervening materials are apparently non-magnetic sediments, and range in thickness from 2,500 to nearly 4,000 feet (760 m to 1200 m). For reason of overall compatibility, the contours preferentially follow the shallower volcanics.

REFERENCE

Vaquier, V., Steenland, N.C., Henderson, R.G., and Zietz, I., 1951, "Interpretation of aeromagnetic maps": Geological Society of America Memoir 47, 151 p

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.